

MINUTES OF THE
MARICOPA ASSOCIATION OF GOVERNMENTS
AIR QUALITY TECHNICAL ADVISORY COMMITTEE MEETING

Thursday, October 26, 2017
MAG Office
Phoenix, Arizona

MEMBERS ATTENDING

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| <ul style="list-style-type: none">* Jamie McCullough, El Mirage, ChairJon Sherrill, Chandler, Vice ChairDrew Bryck, AvondaleSusan Avans for Robert van den Akker, Buckeye# Jess Knudson, Florence* Hondo Judd, GilbertMegan Sheldon, Glendale* Cato Esquivel, Goodyear* Kazi Haque, Maricopa# Lauren Whittaker, Mesa# Rhonda Humbles for Stuart Kent, PeoriaRosanne Albright, PhoenixMartin Lucero for Antonio DeLaCruz, SurpriseOddvar Tveit, Tempe* Youngtown# Ramona Simpson, Queen CreekTim Conner, Scottsdale# Walter Bouchard, American Lung Association of ArizonaKristin Watt, Salt River Project* Rebecca Hudson-Nunez, Southwest Gas Corporation# Michael Denby, Arizona Public Service CompanySusie Stevens, Western States Petroleum AssociationAmanda Luecker for Robert Forrest, Valley Metro/RPTA | <ul style="list-style-type: none">* Dave Berry, Arizona Motor Transport AssociationLiz Foster, Maricopa County Farm Bureau* Steve Trussell, Arizona Rock Products Association* Greater Phoenix Chamber of Commerce# Amanda McGennis, Associated General Contractors* Spencer Kamps, Homebuilders Association of Central ArizonaMannie Carpenter, Valley Forward# Kai Umeda, University of Arizona Cooperative ExtensionBeverly Chenausky, Arizona Department of TransportationNatalie Muilenberg for Brian Parkey, Arizona Department of Environmental Quality# Meredith Kurpius for Environmental Protection AgencyHether Krause, Maricopa County Air Quality DepartmentScott DiBiase, Pinal CountyMichelle Wilson, Arizona Department of Agriculture, Weights and Measures@ Ed Stillings, Federal Highway Administration* JC Porter, Arizona State University* Stan Belone, Salt River Pima-Maricopa Indian Community |
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* Members neither present nor represented by proxy.

Participated via telephone conference call.

+ Participated via video conference call.

@ Ex-Officio member, non-voting member.

OTHERS PRESENT

Lindy Bauer, Maricopa Association of Governments
Julie Hoffman, Maricopa Association of Governments
Matt Poppen, Maricopa Association of Governments
Kara Maynard, Maricopa Association of Governments
Dean Giles, Maricopa Association of Governments
Taejoo Shin, Maricopa Association of Governments
Randy Sedlacek, Maricopa Association of Governments
Teri Kennedy, Maricopa Association of Governments

Joonwon Joo, Arizona Department of Transportation
Sam Brown, City of Scottsdale
Bob Huhn, Maricopa County Air Quality Department
Lucette Ramirez, Maricopa County Air Quality Department
Joe Gibbs, City of Phoenix

1. Call to Order

A meeting of the Maricopa Association of Governments (MAG) Air Quality Technical Advisory Committee (AQTAC) was conducted on October 26, 2017. Jon Sherrill, City of Chandler, Vice Chair, called the meeting to order at approximately 1:30 p.m. Ramona Simpson, Town of Queen Creek; Jess Knudson, Town of Florence; Lauren Whittaker, City of Mesa; Rhonda Humbles, City of Peoria; Michael Denby, Arizona Public Service Company; Amanda McGennis, Associated General Contractors; Walt Bouchard, American Lung Association of Arizona; Kai Umeda, University of Arizona Cooperative Extension; and Meredith Kurpius, Environmental Protection Agency, attended the meeting via telephone conference call.

Vice Chair Sherrill indicated that copies of the handouts for the meeting are available. He noted for members attending through audio conference, the presentations for the meeting will be posted on the MAG website under Materials for the Committee agenda, whenever possible. If it is not possible to post them before the meeting, they will be posted after the meeting.

2. Call to the Audience

Vice Chair Sherrill stated that the Call to the Audience provides an opportunity for members of the public to address the Committee on items not scheduled on the agenda that fall under the jurisdiction of MAG, or on items on the agenda for discussion but not for action. Comment cards for those wishing to speak are available on the tables adjacent to the doorways inside the meeting room. Members of the public will be requested not to exceed a three minute time period for their comments. A total of 15 minutes will be provided for the Call to the Audience agenda item, unless the Committee requests an exception to this limit. Please note that those wishing to comment on action agenda items will be given an opportunity at the time the item is heard. Vice Chair Sherrill noted that no public comment cards had been received.

3. Approval of the August 24, 2017 Meeting Minutes

The Committee reviewed the minutes from the August 24, 2017 meeting. Tim Conner, Scottsdale, moved and Kristin Watt, Salt River Project, seconded, and the motion to approve the August 24, 2017 meeting minutes carried unanimously.

4. Evaluation of Proposed FY 2021 and 2022 CMAQ Projects for the FY 2018-2022 MAG TIP

Dean Giles, Maricopa Association of Governments, presented the evaluation of proposed Fiscal Year (FY) 2021 and 2022 Congestion Mitigation and Air Quality Improvement (CMAQ) Projects for the FY 2018-2022 MAG Transportation Improvement Program (TIP).

Mr. Giles discussed the purpose of the Federal Highway Administration (FHWA) CMAQ Program. The purpose is to fund transportation projects and programs that will contribute to attainment or maintenance of federal air quality standards for ozone, carbon monoxide (CO), and particulate matter (PM). The FHWA published Interim Program Guidance for the CMAQ Program on November 12, 2013. A copy of the CMAQ Program has been included in the agenda materials. In accordance with the FHWA Guidance, MAG has conducted an assessment of the projects to evaluate the emission reduction benefits and cost-effectiveness to better inform the selection of CMAQ projects. Mr. Giles stated that on August 7, 2017 MAG issued a call for projects with applications due on September 25, 2017. The call for projects included: Air

Quality Projects (projects include: PM-10 Paving Unpaved Roads, PM-10 Certified Street Sweepers, and Trip Reduction and Rideshare Programs) and Bicycle and Pedestrian Projects. In addition to the CMAQ funding for Bicycle and Pedestrian Projects, there is Transportation Alternatives Funding that is also available.

Mr. Giles reported that approximately \$63.9 million in CMAQ funding requests were received for Bicycle and Pedestrian Projects. All Bicycle and Pedestrian Projects were evaluated for CMAQ since it is not known which projects would receive CMAQ funding or Transportation Alternatives Funding. Mr. Giles stated that MAG evaluated 39 Air Quality Projects and 37 Bicycle and Pedestrian Projects. He indicated that the application data for the evaluation of CMAQ Projects is provided by the MAG member agencies in the project applications. MAG applies the CMAQ methodologies, which were last updated in September 2011.

Mr. Giles commented that MAG utilized the Environmental Protection Agency (EPA) MOVES2014 emissions model to estimate the project emission reductions for total organic gases, nitrogen oxide (NOx), and PM-10 in kilograms per day, and AP-42 to calculate fugitive dust emissions. MAG staff calculated the cost-effectiveness for projects by dividing the annualized CMAQ cost by the annual emission reductions. Mr. Giles stated that the kilograms per day were converted to metric tons. He indicated that the results are provided in a revised Attachment A that was provided at each place. Attachment A was updated to include a City of Glendale change for the Maryland Avenue Bike Connection Project on Page three. Additionally, as request by the Committee, MAG staff included a note that describes how the projects are eligible by referring to the FHWA CMAQ Guidance.

Mr. Giles provided the schedule. In October and November, the MAG committees will review the project applications. Mr. Giles indicated that the MAG Air Quality Technical Advisory Committee is requested to forward the CMAQ evaluation to the Bicycle and Pedestrian Committee and the MAG Transportation Review Committee (TRC) for their use in evaluating projects. On November 28, 2017 the MAG Bicycle and Pedestrian Committee will continue the evaluation using the CMAQ evaluation and other criteria to rank projects that will be forwarded to the TRC. Mr. Giles stated that it is anticipated that in January 2018 the MAG Management Committee may recommend, and the MAG Regional Council may approve, the prioritized listing of projects.

Mr. Giles stated that the Committee is requested to forward the evaluation of proposed FY 2021 and 2022 CMAQ Projects for the FY 2018-2022 MAG Transportation Improvement Program to the MAG Transportation Review Committee and modal committees for use in prioritizing Projects. The Committee is also requested to rank the Air Quality Projects to be forwarded to the MAG TRC.

Mr. Conner inquired if the revised Attachment A is listed in order of cost-effectiveness from most effective to least effective. Mr. Giles replied that the items in Attachment A are listed in order of cost-effectiveness.

The Committee reviewed the evaluation of proposed FY 2021 and 2022 CMAQ Projects for the FY 2018-2022 MAG Transportation Improvement Program. Martin Lucero, City of Surprise, moved, and Mr. Conner, seconded, and the motion to approve the evaluation of proposed FY

2021 and 2022 CMAQ Projects for the FY 2018-2022 MAG TIP and to forward the ranked Air Quality Projects to the MAG Transportation Review Committee carried unanimously.

5. Evaluation of Proposed PM-10 Certified Street Sweeper Projects for FY 2018 CMAQ Funding

Mr. Giles presented the evaluation of proposed PM-10 Certified Street Sweeper Projects for FY 2018 Congestion Mitigation and Air Quality Improvement Funding. Overall, 15 projects requesting \$3.75 million were submitted with a total of \$1.7 million available. The project application deadline was September 25, 2017. MAG staff applied the CMAQ methodologies using the data in the project applications. Mr. Giles stated that the PM-10 emissions reductions were calculated in kilograms per day. The projects are provided in Attachment A listed in order of cost-effectiveness.

Mr. Giles indicated that funding is available for the first seven projects. In addition, the initial \$13,263 is available to fund the Pinal County project. The MAG Street Committee conducted a technical review of the projects at their October 10, 2017 meeting. Mr. Giles noted that the summary of the comments made by the MAG Street Committee are provided in Attachment B of the agenda materials. He stated that the MAG AQTAC is requested to recommend a prioritized list of proposed PM-10 Certified Street Sweeper Projects for FY 2018 CMAQ Funding to the MAG Management Committee and to retain the prioritized list should additional FY 2018 CMAQ funds become available. It is anticipated that the MAG Management Committee would consider the list of proposed PM-10 Certified Street Sweeper Projects at their meeting on November 8, 2017, followed by the MAG Regional Council on December 6, 2017.

Mannie Carpenter, Valley Forward, inquired which table featured the prioritized list of proposed PM-10 Certified Street Sweeper Projects. Mr. Giles replied Attachment A under Agenda Item Five titled List of Proposed PM-10 Certified Street Sweeper Projects for FY 2018 CMAQ Funding.

Ramona Simpson, Town of Queen Creek, asked about the application process for closeout funds. Mr. Giles responded that street sweepers projects that are not funded with the initial available funding MAG then goes through a closeout process where additional funding may become available to fund the remaining street sweeper projects. He stated that MAG would know in approximately February 2018 if closeout funding is available. Ms. Simpson inquired if the municipalities would need to submit an application for the closeout funds. Mr. Giles replied that the action is to retain the prioritized list for any CMAQ funds that may become available, in which there is no need to resubmit an application.

Teri Kennedy, Maricopa Association of Governments, stated that she is the TIP Manager at MAG. She reported that closeout funds will be available for FY 2018 with an estimated amount of nine million available. Ms. Kennedy indicated that MAG will submit the prioritized list of Street Sweeper Projects as part of the closeout fund request. She added that MAG will verify at the MAG Street Committee on November 14, 2017 that all agencies on the list are still interested in continuing to have their projects funded. In addition, November 14, 2017 is the deadline for submitting requests for closeout funds in which the MAG Management Committee and the MAG Transportation Review Committee were included on that memorandum.

Vice Chair Sherrill requested a motion to recommend the proposed PM-10 Certified Street Sweeper Projects for FY 2018 CMAQ funding and retain the prioritized list for any additional

FY 2018 CMAQ funds that may become available. Ms. Simpson, motioned, and Drew Bryck, City of Avondale, seconded, and the motion to recommend a prioritized list of proposed PM-10 Certified Street Sweeper Projects for FY 2018 CMAQ funding to the MAG Management Committee and to retain the prioritized list for any additional FY 2018 CMAQ funds that may become available due to closeout or additional funding received by this region carried unanimously.

6. Evaluation of Proposed PM-10 Paving Unpaved Road Projects for FY 2021 and 2022 CMAQ Funding

Mr. Giles presented the evaluation of proposed PM-10 Paving Unpaved Road Projects for FY 2021 and 2022 CMAQ Funding. Mr. Giles noted that the projects include roads, alleys, and shoulders. Attachment A includes the proposed projects for the Maricopa County PM-10 Nonattainment Area in order of cost-effectiveness based on the amount of CMAQ funding requested. Attachment B includes the same proposed projects for the Maricopa County PM-10 Nonattainment Area in order of PM-10 emission reductions. Attachment C includes the proposed projects for the Pinal County PM-2.5 Nonattainment Area in order of cost-effectiveness based on the amount of CMAQ funding requested. Attachment D includes the same proposed projects for the Pinal County PM-2.5 Nonattainment Area in order of PM-10 emission reductions. MAG staff applied the CMAQ methodologies using the data provided in the project applications. The weighted PM-10 emission reductions are shown in kilograms per day.

Mr. Giles reported that in the Maricopa County PM-10 nonattainment area, 12 paving unpaved road, alley, and shoulder paving projects were submitted requesting \$15.5 million. A total of \$10 million CMAQ funding is available for paving unpaved road, shoulder, and alley projects. Mr. Giles stated that many of the paving projects are located within four miles of a PM-10 monitor.

Mr. Giles reported that in the Pinal County PM-2.5 nonattainment area, four Paving Unpaved Road Projects were submitted requesting \$6.4 million. A total of \$1.5 million is available in CMAQ funding for PM-2.5. Mr. Giles noted that all four projects are in FY 2021 and no projects were submitted for FY 2022. He indicated that for projects in the Pinal PM-2.5 nonattainment area, the weighted PM-2.5 reductions are ten percent of the weighted PM-10 reductions per the EPA AP-42 equations. All projects are paving within four miles of a PM-10 monitor. Mr. Giles stated that the Pinal County project on Smith Road and Kortsen Road is located within a quarter mile of the Hidden Valley PM-10 monitor.

Mr. Giles stated that under the MAG Federal Fund Programming Guidelines and Procedures, the MAG Street Committee is to review the project applications and data. The MAG Street Committee conducted a technical review of the projects at their October 10, 2017 meeting. Mr. Giles noted that the summary of comments made by the MAG Street Committee are provided in Attachment E of the agenda materials. He indicated that the MAG AQTAC is requested to recommend a ranked list of proposed PM-10 Paving Unpaved Road Projects for FY 2021 and 2022 CMAQ Funding and forward to the MAG Transportation Review Committee. It is anticipated that the MAG TRC will consider these projects at their meeting on December 7, 2017.

Vice Chair Sherrill asked if there was a recommendation to forward the ranked proposed PM-10 paving unpaved road projects for FY 2021 and 2022 CMAQ funding and forward to the MAG Transportation Review Committee.

Mr. Conner asked to clarify that Attachment E was MAG Street Committee summary of comments which are not part of the ranked PM-10 Paving Unpaved Road Projects for FY 2021 and 2022. Mr. Giles indicated that the MAG Street Committee summary of comments may be forwarded on.

Martin Lucero, City of Surprise, inquired if Attachment E is listed in alphabetical order, not in prioritization order. Mr. Giles stated that Attachment E is not in prioritized order. Mr. Lucero commented that the alphabetical order is important to note for the MAG Committees because alphabetical order is arranged differently than on the ranked list. Mr. Giles responded that the MAG Street Committee at their October 10, 2017 meeting did not have the PM-10 emissions reductions or cost-effectiveness information and the MAG Street Committee summary of comments are the initial look at the project applications.

Scott DiBiase, Pinal County, motioned, and Mr. Conner, seconded, and the motion to recommend a ranked list of proposed PM-10 Paving Unpaved Road Projects for FY 2021 and 2022 CMAQ Funding and forward to the MAG Transportation Review Committee carried unanimously.

7. Winter Holiday 2017 Burn Cleaner, Burn Better Campaign

Bob Huhn, Maricopa County Air Quality Department, provided a presentation on the 2017 Burn Cleaner, Burn Better Campaign. He commented that before his presentation he would like to distribute copies of the completed Maricopa County Air Quality Department (MCAQD) Annual Report. Mr. Huhn noted that Maricopa County added more graphics, such as infographics, to the Annual Report.

Mr. Huhn stated that a winter holiday No Burn Campaign has been conducted for six years. He noted that the No Burn Campaign was implemented in response to high concentrations of PM-2.5 at the monitors. He stated that the region was close to violating the PM-2.5 standard. Mr. Huhn indicated that six years ago MCAQD had the idea for an outreach campaign. He noted that the Arizona Department of Environmental Quality (ADEQ) had the same idea as well. Maricopa County Air Quality Department partnered with ADEQ on a winter holiday campaign.

Mr. Huhn discussed that in 2016 the campaign changed from the No Burn Campaign to the Burn Cleaner, Burn Better Campaign. He commented that fewer No Burn Days was one of the reasons for the campaign switch. Mr. Huhn stated that last year there was only one full No Burn Day on New Year's Eve and a half No Burn Day on New Year's Day. He noted that the No Burn Day on New Year's Day was rescinded in the afternoon due to meteorology. He added that there were no exceedances of the PM-2.5 standard on the four holidays last year (Christmas Eve, Christmas, New Year's Eve, and New Year's Day), which has only occurred two times in 14 years. Mr. Huhn indicated that another reason that the campaign changed was to better promote alternatives to burning wood, such as: gas fireplaces, electric fireplaces, fireplace retrofit devices, EPA-certified wood stoves, and pellet stoves. He stated that MCAQD also has a program in place that aids residents in acquiring alternatives to burning wood that will be discussed later in the presentation.

Mr. Huhn indicated that the Maricopa County Air Quality Department will continue to issue official No Burn Days. He noted that some of the campaign messaging will still feature No Burn Days.

Mr. Huhn discussed the Burn Cleaner, Burn Better Campaign outreach. Campaign outreach includes: billboards (in English and Spanish); TV, radio, online, and newspaper sources (in English and Spanish); grocery store signage, weekly advertisements, and in-house grocery store radio; light rail; Arizona Department of Transportation signs; social media; and public and private partnerships. He indicated that residence door-hangers will not be used in the Burn Cleaner, Burn Better Campaign this year, however the Maricopa County Fireplace Retrofit Program (MCFRP) will be utilizing door-hangers. Mr. Huhn noted that the public and private partnerships are the most important key to outreach because it is the community that spreads the word about the campaign. He stated that the campaign kickoff event is December 14, 2017 at South Mountain Park in which all the partners and stakeholders are invited. The event will describe the campaign, why the campaign is in place, and showcase the past success of the campaign. The event will feature speakers and representatives from: Bashas Grocery Store, Home Depot, a private physician from Maricopa Medical Center, as well as Maricopa County Supervisors. Mr. Huhn noted that the event will focus on the community: how the community has aided in the past and how they can help this year. He stated that each of the public and private partners are able to reach different groups and more people than the MCAQD would be able to reach on its own.

Mr. Huhn discussed TV meteorologist spots. He noted that the TV stations donated spots last year that ran on their respective channels, with the exception of Channel 10 who donated a generic public service announcement that MCAQD was able to utilize in the campaign. Mr. Huhn stated that many of the TV meteorologist spots will need to be updated to reflect branding changes and changes in meteorologists. In addition, campaign materials will need to be updated to reflect that the Arizona Department of Environmental Quality is not a partner this year, at their request. Mr. Huhn noted this is mainly due to current staffing levels.

Mr. Huhn discussed media buys for the campaign. He stated that the main analytic that is used for media buys is the cost per 1,000 impressions. The 2016 Burn Cleaner, Burn Better Campaign cost per 1,000 impressions was \$3.54 with approximately 43.2 million impressions. Mr. Huhn indicated that the 2017 Burn Cleaner, Burn Better Campaign has negotiated 59.7 million impressions for \$2.22 per 1,000 impressions. He noted that this does not include the bonus spots. Mr. Huhn reported that MCAQD is expected to save \$24,000 on media buys. He stated that some Channels will begin to run the TV spots and some billboards will be seen in early December, however the campaign is the most active the week before Christmas and the week before New Year's Day.

Mr. Huhn stated that Arizona State University (ASU) and the Arizona Retailers Association are two new partners for the 2017 campaign. He commented that there has been an increase in PM-2.5 concentrations in the areas around Arizona State University. Mr. Huhn stated that many of the college-aged students have bonfires to celebrate the season, however these are occurring close to an air quality monitor in Tempe. MCAQD is partnering with ASU to target a younger demographic in the Tempe campus area. ASU is allowing MCAQD to use their alert system for No Burn Days and email the students of No Burn Days. In addition, a marketing class will be marketing the campaign at the school. Mr. Huhn commented that Bashas and other grocers assist

the campaign in many ways, such as: placing signage by the wood and entrances/exits; including campaign advertisements in the grocery store advertisements; and providing loudspeaker announcements in the store. He stated that the Arizona Retailers Association will also aid MCAQD with similar types of outreach. For example, signage will be placed where wood is sold and in entrances/exits.

Mr. Huhn presented the Maricopa County Fireplace Retrofit Program. In 2016, MCFRP was established as a pilot program designed to reduce air pollution by modernizing wood burning fireplaces. The program is entirely funded through penalty/settlement money in which the program was provided \$300,000. He stated that people within the pilot project range have two options. If a resident is plumbed for gas, the Fireplace Retrofit Program will switch the wood burning fireplace to a natural gas device. Mr. Huhn stated that Maricopa County was looking to offer these for free, however if there was any additional work, fees could be incurred by the homeowner. Another option for residents is an emissions reduction device called a Catalytic Conversion Device. This could be installed in chimneys in which the device reduces up to 70 percent of the emissions while still allowing the homeowner to burn wood. However, during No Burn Days wood burning is still not allowed even if the homeowner has a Catalytic Conversion Device.

Mr. Huhn stated that last year 132 homes were retrofitted. He indicated that the pilot program boundary area was based on the highest PM-2.5 concentration levels, which was around the West Phoenix, South Phoenix, and Durango Complex air quality monitors. Mr. Huhn noted that the goal of the 2016 pilot program was retrofitting approximately 200 homes. In 2016, approximately 438 residences qualified for the pilot program. To date, 181 total retrofits have been completed in which 70 were air pollution reduction devices and 111 were natural gas log sets. The natural gas log sets required more time than expected due to multiple trips to the home. This year MCFRP will work with those that have already qualified.

Mr. Huhn stated that the MCFRP focus is shifting from indoor wood burning retrofits to also including outdoor wood burning retrofits and alternatives. The outdoor wood burning retrofits and alternatives that Maricopa County are exploring are: outdoor gas fire pits (propane); recycle program to recycle existing metal wood burning fire pits to remove them from use; and looking for partnerships on other retrofit and alternative options. Mr. Huhn stated that the Maricopa County Supervisors approved the pilot project and provided funding. He stated that MCFRP is finalizing the details for the outdoor wood burning retrofits that would no longer have an area boundary. Mr. Huhn noted that MCFRP is working with the Maricopa County Supervisors Office, City of Phoenix, and Home Depot. He stated that the pilot program will supply Home Depot coupons to provide incentives for outdoor wood burning retrofits or alternatives. The details of this pilot program will be available by December 14, 2017.

Mr. Huhn thanked everyone who has supported the Burn Cleaner, Burn Better Campaign. He stated that there are many ways to help spread the word about the campaign that include: newsletters; water bills; Town/City billboards; social media; and campaign website widgets.

Beverly Chenausky, Arizona Department of Transportation, inquired if retrofitting outdoor fire pits to EPA-certified wood stoves would be part of MCFRP. Mr. Huhn replied that the pilot program, with limited funding, can only remove them from use, however in the future the program may possibly be able to offer retrofits to EPA-certified wood stoves.

Mr. Huhn introduced Lucette Ramirez, Maricopa County Air Quality Department, to present the Burn Cleaner, Burn Better Campaign toolkit. She displayed the Clean Air Make More website. She indicated that the home page currently features the Ozone Campaign, however the Burn Cleaner, Burn Better Campaign will be featured on the homepage soon that will make navigation to the toolkit easier. Ms. Ramirez navigated to the Burn Cleaner, Burn Better toolkit on the website. She indicated that the toolkit includes written materials, such as fact sheets and language that can be used on social media and websites. The language and written materials have been approved by the MCAQD. In addition, the toolkit also includes: video and audio public service announcements; flyers, brochures, and artwork; social media that include posts, pictures, hashtags, and more; website widgets; and a coloring book for children.

Ms. Ramirez discussed the website widgets. She stated that the website widgets are similar to advertisements or banners that can be placed anywhere on a webpage. Ms. Ramirez indicated that the code has already been completed for many different sizes, however if an agency requires a custom size, MCAQD is more than happy to create a custom-sized widget. She noted that the widgets will automatically update if it is a No Burn Day or if it is ok to burn wood; the agency with the website widget will not have to update the widget. Ms. Ramirez stated that the entire toolkit is available in English or Spanish. She indicated that there is a link to download the entire toolkit. Ms. Ramirez added that once the Burn Cleaner, Burn Better Campaign is available on the homepage, it will feature if it is a No Burn Day or if it is ok to burn wood.

Ms. Ramirez displayed the Burn Cleaner, Burn Better webpage. She indicated that the top of the webpage displays if it is a No Burn Day. Ms. Ramirez added that the MCFRP information will also be available on the webpage in which homeowners can sign up to see if they qualify for a fireplace retrofit.

Mr. Huhn commented that the website widgets are valuable. He noted that when two news stations added the widgets to their webpage, the widgets received so much attention that the reaction crashed the MCAQD website. Mr. Huhn indicated that the artwork in the toolkit has been revised, per ADEQ's request, however the audio and video spots are still being revised.

Ms. Simpson inquired if the toolkit is available on the website. Mr. Huhn stated that the toolkit is available on the Clean Air Make More webpage or it can be mailed as well. He thanked the Committee.

8. Update on Ozone Monitoring Data

Julie Hoffman, Maricopa Association of Governments, presented an update on the ozone monitoring data. She noted that the 2017 summer ozone season is now over. She stated that there have been a few more exceedances since the last update at the August 24, 2017 Committee meeting. Ms. Hoffman indicated that the 2017 ozone exceedances are provided at each place by date and monitor for both the 2008 eight-hour ozone standard of 0.075 parts per million (ppm) and the 2015 eight-hour ozone standard of 0.070 ppm. In addition, a table has also been provided that displays the three year average of the annual fourth high at each monitor, which is how the standard is calculated. Ms. Hoffman noted that the data provided is preliminary.

Ms. Hoffman stated that at the last Committee meeting it was reported that based on the preliminary data, one monitor, the Phoenix Supersite monitor was violating the 0.075 ppm ozone standard. She noted that since the August 24, 2017 Committee meeting, the ozone exceedances

have been reviewed and those that occurred on July 7, 2017 are now being investigated as an exceptional event caused by wildfires in southeastern Arizona. Ms. Hoffman noted that nine monitors exceeded the 0.075 ppm ozone standard on July 7, 2017. She indicated that Matt Poppen, Maricopa Association of Governments, will discuss the preliminary draft analysis of the ozone exceptional event next. Ms. Hoffman stated that when excluding the July 7, 2017 data due to the potential exceptional event, there are now no monitors violating the 2008 eight-hour ozone standard of 0.075 ppm in 2017.

Ms. Hoffman presented the highest three-year average of the fourth highest eight-hour ozone concentration in the Maricopa nonattainment area. She stated that while it is not a straight line, the region continues to experience a downward trend in ozone concentrations over the years. Ms. Hoffman noted that the exceedances of the 0.075 ppm ozone standard from the potential exceptional event on July 7, 2017 have been excluded from the chart.

Ms. Hoffman discussed the eight-hour ozone monitoring data for 2015, 2016, and 2017, including the three-year average of the fourth highest eight-hour ozone concentration at the monitors. She noted that at the last Committee meeting the Phoenix Supersite monitor was violating the 2008 ozone standard at 0.076 ppm. However, by excluding the exceedances of the 2008 ozone standard from July 7, 2017 due to the potential exceptional event, the three-year average of the fourth high is 0.075 ppm at the Phoenix Supersite monitor. She stated that with this data excluded for July 7, 2017, the table shows that all monitors in the region meet the 2008 eight-hour ozone standard of 0.075 ppm in 2017.

Mr. Poppen stated that the Arizona Department of Environmental Quality, Maricopa County Air Quality Department, and MAG have begun an analysis of an ozone wildfire exceptional event in the Maricopa eight-hour ozone nonattainment area on July 7, 2017. He discussed that all three agencies agree that July 7, 2017 is a good candidate for an exceptional event demonstration to submit to EPA. He noted that multiple wildfires were burning July 1-7, 2017 to the south and east of the Maricopa eight-hour ozone nonattainment area. Smoke from wildfires is visible on satellite photos and was reported by multiple fire tracking agencies. Mr. Poppen added that since the fires burned for a week, there was an accumulation of ozone and ozone precursors from the many different fires that contribute to the exceedance. Most of the time during this period, back trajectories from the nonattainment area did not intersect with areas where the fires were burning. However, on July 7, 2017, the back trajectories shift to the areas where active fires were burning, facilitating the transport of ozone and ozone precursor emissions from these fires into the nonattainment area causing the exceedances at the air quality monitors. Smoke maps from the National Ocean and Atmospheric Administration (NOAA) indicate a large presence of smoke in the nonattainment area on July 7, 2017.

Mr. Poppen displayed maps from NOAA. He stated that green is light smoke, yellow is medium smoke, and red is heavy smoke. Confirmed active fires identified by satellites are depicted with a fire symbol and air quality monitors are depicted with yellow dots. Red and blue lines depict back trajectories, which is where the air is coming from and into the nonattainment area, in the previous 24 hours. The blue line is considered upper air which is 1,500 meters above ground level and the red line is lower air at 100 meters above ground level.

Mr. Poppen presented a map from July 1, 2017 in which there was heavy smoke, however the back trajectories originated in Mexico where no smoke is noted. Maps from July 2, 2017 display

additional fires burning south of San Diego, however the back trajectories originate in Mexico where no smoke is detected. The back trajectories from July 3, 2017 primarily come from clean air sheds despite widespread light smoke. A small amount of light smoke can be seen in the eastern portion of the nonattainment area on July 4, 2017, however the air was moving from the west. July 5, 2017 is similar, however on July 6, 2017 the smoke is closer to the nonattainment area. Mr. Poppen displayed that on July 7, 2017 the back trajectories originate from the areas where the fires were burning. There were three large fires, the Hilltop fire in Payson, the Burro fire in Tucson, and the Frye fire near Tucson, that primarily contributed the ozone and ozone precursors.

Mr. Poppen displayed satellite photos for July 1-7, 2017 with the location and names of the active fires with a yellow asterisk. The colored hexagons depict the daily maximum eight-hour average ozone concentrations and the pink shapes are back trajectories. On July 1, 2017 through July 5, 2017 the ozone concentrations are generally low. On July 6, 2017 the ozone concentrations start to rise with the wind patterns shifting and on July 7, 2017 the ozone concentrations rapidly increase with visual evidence of smoke. Visually there is a haze on the images displaying smoke over many of the fires and over the nonattainment area.

Mr. Poppen discussed the maximum eight-hour average ozone concentrations at nonattainment area monitors that exceeded on July 7, 2017. He indicated that on July 7, 2017 the air quality monitor located on the border of Pinal and Pima County recorded a rare exceedance of the 2008 eight-hour ozone standard. At the Dysart monitor, the exceedance on July 7, 2017 is the highest ever recorded since it began operation in 2003 at 0.087 ppm. At the Phoenix Supersite monitor, the exceedance on this day is the highest recorded since 2002. Mr. Poppen commented that the unusually high concentrations levels indicate that an unusual event likely caused the exceedances. He stated that the right hand column is the July 7, 2017 ozone concentration rank in 2017. Mr. Poppen indicated that a majority of the airflow was concentrated in the western part of nonattainment area. He noted that a majority of the ozone concentrations are the highest seen throughout the entire 2017 ozone season. Mr. Poppen stated that the lowest ranked ozone concentration, fourth, is at the Mesa monitor with 0.078 ppm. He added that the emission reductions over the years for volatile organic compounds (VOC) and NO_x have decreased, however the high concentrations on July 7, 2017 suggest that there was an additional source/s of pollutants that are not normally present, such as wildfires, that would have contributed to the high concentrations.

Mr. Poppen provided information on the additional ongoing analysis. He stated that all information provided is preliminary, draft, and subject to change. Additional analyses of the event (for example, PM-2.5 and ozone precursor emission analyses, regression analyses, local weather data analysis, etc.) is ongoing by ADEQ, Maricopa County, and MAG with new analyses expected to provide further evidence that the wildfires in southeastern Arizona caused the ozone exceedances on July 7, 2017. Mr. Poppen commented that MAG wanted to update the Committee on why this day would make a good candidate for an exceptional event. He stated that July 7, 2017 will be flagged as an exceptional event and a demonstration will be provided to the Environmental Protection Agency.

9. Draft Hidden Valley Monitor Area PM-10 Emissions Inventory

Mr. Poppen presented the Draft Hidden Valley Monitor Area PM-10 Emissions Inventory. He reported that a presentation was provided to the Committee at the last meeting on the development of the draft PM-10 emissions inventory for the Hidden Valley monitor area by the Pinal County Air Quality Control District, ADEQ, and MAG. The purpose of the emissions inventory is to provide information to aid in the prevention of future PM-10 exceedances at the Hidden Valley monitor and throughout the nonattainment area, attain the PM-10 standard, and avoid reclassification to a Serious PM-10 nonattainment area.

Mr. Poppen displayed a map of the PM-10 monitors in the West Pinal County Moderate PM-10 nonattainment area. He noted that the Hidden Valley monitor is one of eight monitors and is located in the western portion of the nonattainment area. Mr. Poppen indicated that this area was designated as a nonattainment area by EPA on May 31, 2012.

Mr. Poppen discussed the Hidden Valley monitor. The Hidden Valley monitor began operation on January 1, 2016 as a replacement for the prior Cowtown monitor that is no longer in operation. Mr. Poppen noted that the Hidden Valley monitor has similar PM-10 sources as compared to the Cowtown monitor, however it has shown a significantly different PM-10 diurnal profile. During 2016, 30 exceedances of the PM-10 standard were measured during low wind and high wind conditions at the Hidden Valley monitor. Mr. Poppen added that through October 22, 2017, there have been 28 low and high wind exceedances at the Hidden Valley monitor in 2017. For these reasons, an independent emissions inventory for the Hidden Valley monitor was prepared.

Mr. Poppen displayed a Google Earth photo of the Hidden Valley monitor. He stated that there are many dust sources in the area around the monitor. There are feed lots and agricultural fields east of the monitor, scattered low density residential areas west of monitor, and a Pinal County material dirt storage pit and open desert area located south of the monitor. There is also dairy land, crop land, and unpaved roads in the area surrounding the monitor.

Mr. Poppen discussed the emissions inventory approach. Daily PM-10 emission inventories for the Hidden Valley monitor area were developed for two low wind and two high wind PM-10 exceedance days that occurred in 2016. The low wind days are March 17 and October 13, 2016. The two high wind days are April 7 and September 26, 2016. On low wind days, the emissions inventory domain is a two-mile radius around the Hidden Valley monitor and on high wind days, the emissions inventory domain is extended four miles out from the monitor based upon the wind direction of the high winds. Since low wind hours occur on all four episode days, PM-10 emissions for low wind sources are reported on all four episode days. PM-10 emissions from windblown dust are only included on high wind days.

Mr. Poppen presented the low wind day diurnal pattern on March 17, 2016. He stated that this is the most common exceedance pattern on low wind days. The blue columns are the hourly average PM-10 concentrations that usually peak in the morning when wind speeds are low. On this day the hourly PM-10 concentration peaked, 1,129 micrograms, at 6:00 AM with wind speed just below three miles per hour.

Mr. Poppen displayed the low wind day diurnal pattern on October 13, 2016. This exceedance pattern also frequently appears on low wind days, a peak in concentrations in both the morning

and evening. Mr. Poppen noted that wind speeds were below five miles per hour all day, however there is a longer period of high concentration levels from approximately 5:00 AM to 9:00 AM. The second spike in emissions was seen at approximately 6:00 PM to 7:00 PM.

Mr. Poppen presented the high wind day diurnal pattern on April 7, 2016. He indicated that the hourly average wind speed was low for a majority of the day, however there were high wind speed gusts at approximately 4:00 PM and 8:00 PM. As shown on the graph, the PM-10 wind emissions were driven by the wind gusts, not the hourly wind speed. The PM-10 emissions were low a majority of the day except during the high wind gusts. Mr. Poppen noted that wind speeds were only above 12 miles per hour for a total of approximately 45 minutes for the entire day.

Mr. Poppen displayed the high wind diurnal pattern on September 26, 2016. He stated that on this day the wind speeds were higher for a large part of the day in which there are more hours of high PM-10 concentrations. The highest concentrations were at 11:00 AM, with the second highest concentrations seen at 6:00 PM. The data for this day also show a low wind spike of PM-10 concentrations at 7:00 AM. Mr. Poppen stated that a mixture of conditions can contribute to PM-10 exceedances at the Hidden Valley monitor.

Mr. Poppen provided an aerial photo of the low wind domain. He indicated that anything within the red circle would be considered a PM-10 emissions source for low wind hours and days.

Mr. Poppen displayed an aerial photo of the April 7, 2016 high wind domain. He commented that winds primarily originated out of the southwest in which windblown dust emissions were primarily from natural desert areas.

Mr. Poppen provided an aerial photo of the September 26, 2016 high wind domain. He stated that the winds primarily originated from the southeast covering a variety of PM-10 emission sources.

Mr. Poppen discussed the emissions inventory source categories identified in the Hidden Valley monitor area by ADEQ, Pinal County, and MAG. The low wind PM-10 emission source categories include: industrial and commercial activities; agricultural activities; fugitive dust from unpaved parking; fugitive dust from unpaved roads; fugitive dust from paved roads; onroad mobile source exhaust, tire wear, and brake wear; and nonroad mobile source exhaust. The industrial and commercial activities include: Material Dirt Storage Pit operated by Pinal County and commercial construction. The agricultural activities include: dairy operations; feedlot operations; harvesting crops; and tilling crops. The fugitive dust from unpaved roads are separated into categories that include: agricultural roads that primarily serve farmland; private roads that are not maintained by Pinal County or a municipality; public roads that are maintained by Pinal County or a municipality; Smith Road that is a highly trafficked roadway that is located a quarter of a mile from the Hidden Valley monitor; and trails.

Mr. Poppen stated that the high wind PM-10 emission source categories are determined by ADEQ land use in their PM-10 State Implementation Plan that was submitted to EPA in 2015. The windblown dust sources by ADEQ land use categories include: agricultural crops; cleared areas which are areas that were once desert, that have been cleared of vegetation; dairies; desert shrub land which are areas with natural vegetation; developed rural lands which are residential areas; developed urban lands which are commercial buildings; feedlots; site development which would be active construction sites; and unpaved roads.

Mr. Poppen discussed low wind day PM-10 emissions. The March 17, 2016 PM-10 emissions totaled 6,654 pounds. The sources that contributed include: 4,159 pounds from unpaved roads (62.5percent); 2,392 pounds from agricultural activities (35.9 percent); and 103 pounds from all other categories (1.6 percent). The October 13, 2016 PM-10 emissions totaled 7,134 pounds. The sources that contributed include: 4,253 pounds from unpaved roads (59.6 percent); 2,799 pounds from agricultural activities (39.2 percent); and 82 pounds from all other categories (1.2 percent).

Mr. Poppen discussed high wind day PM-10 emissions. The April 7, 2016 PM-10 emissions totaled 8,263 pounds. The sources that contributed include: 4,159 pounds from unpaved roads (50.3percent); 2,041 pounds from windblown dust (24.7 percent); 1,960 pounds from agricultural activities (23.7 percent); and 103 pounds from all other categories (1.3 percent). Mr. Poppen stated that since this date had relatively low wind speeds for a high wind day, the primary emissions category is unpaved roads with windblown dust being the second highest contributing source. The September 26, 2016 PM-10 emissions totaled 41,527 pounds. The sources that contributed include: 34,394 pounds from windblown dust (82.8 percent); 4,253 pounds from unpaved roads (10.2 percent); 2,799 pounds from agricultural activities (6.7 percent); and 81 pounds from all other categories (0.3 percent).

Mr. Poppen displayed the low wind day PM-10 emissions pie chart for March 17, 2016. Some of the categories include: feedlot operations in light green; dairy operations in dark green; and unpaved roads in shades of blue. The unpaved roads categories include: unpaved parking; unpaved agricultural roads; unpaved private roads; unpaved public roads; unpaved Smith Road; and unpaved trails.

Mr. Poppen presented the low wind day PM-10 emissions pie chart for October 13, 2016. He indicated that harvesting crops is present on this pie chart, however it is not present on the March 17, 2016 pie chart because crops were not being harvest at that time.

Mr. Poppen displayed the high wind day PM-10 emissions pie chart for April 7, 2016. He noted that the windblown dust categories are displayed in black and white crosshatch. Mr. Poppen stated that the largest source category for this high wind day was windblown desert shrub land.

Mr. Poppen presented the high wind day PM-10 emissions pie chart for September 26, 2017. He indicated that the largest emissions category is windblown desert shrub land.

Mr. Poppen stated that the Hidden Valley Monitor Area PM-10 Emissions Inventory is a draft document that is being reviewed by ADEQ, Pinal County, and MAG.

Lindy Bauer, Maricopa Association of Governments, discussed the importance of the emissions categories in the pie chart. She commented that no category is insignificant. Ms. Bauer stated that PM-10 is a localized issue. If a source category, that is just a sliver on a pie chart, creates dust near a PM-10 monitor, it can cause an exceedance of the PM-10 standard. She commented that in order to prevent exceedances, all sources in the emissions pie chart need to be focused on reducing PM-10 regardless of the size.

10. Tentative Meeting Schedule for the MAG Air Quality Technical Advisory Committee

Ms. Bauer stated that the tentative AQTAC meeting schedule for 2018 has been included in the agenda materials.

11. Call for Future Agenda Items

Vice Chair Sherrill indicated that the next meeting of the Committee has been scheduled for Thursday, November 30, 2017 at 1:30 p.m. He requested suggestions for future agenda items. With no further comments, the meeting was adjourned at approximately 2:50 p.m.